ECS/EMD Configuration Change Request

1. Originator	2. Log Date:	3. CCR #:	4. Rev:	5. Tel:	6. Rm #:	7. Org.
Bradley Koenig	04/20/2005	05-0172		301/925-0581	1146D	SE

8. CCR Title: ACSLS TE for LP DAAC

9. Originator Signature/Date	10. Class	11. Type:	12. Need Date: 4/26/05
Bradley S. Koenig /s/ 04/20/2005	II	CCR	

13. CCR Sponsor Signature/Date	14. Category of Change:	15. Priority: (If "Emergency" fill in Block 27).
Pamela Johnson /s/ 04/20/2005	Patch/TE	Routine

16. Documentation/Drawings Impacted *(Review and submit checklist):*	17. Schedule Impact:	18. CI(s) Affected:
None - temporary changes		DADS

19. Release Affected by this Change:	20. Date due to Customer:	21. Estimated Cost:
		None - Under 100K

22. Source Reference: ☒NCR (attach) ☐Action Item ☐Tech Ref. ☐GSFC ☐Other:
ECSed40785

23. Problem: (use additional Sheets if necessary)
LP DAAC has previously identified a problem in the ACSLS implementation with IPC errors.

24. Proposed Solution: (use additional sheets if necessary)
STK has provided an ACSLS diagnostic version that they believe will isolate the problem. The code has been tested in the PVC without issues. Request that LP DAAC test the software and provide STK with feedback on the results. Note that the current version will be restored after testing -- this is a temporary change.
482529048 53096 acssa.Pinn820965
722426575 6673589 PUT0501S.tar.Z

25. Alternate Solution: (use additional sheets if necessary)
Wait for another customer to isolate the problem

26. Consequences if Change(s) are not approved: (use additional sheets if necessary)
At a minimum, the archive system will not work efficiently and at worst case, the problem could cause to archive system failure.

27. Justification for Emergency (If Block 15 is "Emergency"):

28. Site(s) Affected: ☐EDF ☐PVC ☐VATC ☒EDC ☐GSFC ☐LaRC ☐NSIDC ☐SMC ☐AK ☐JPL ☐EOC ☐IDG Test Cell ☐Other

29. Board Comments:	30. Work Assigned To:	31. CCR Closed Date:

32. SCDV CCB Chair (Sign/Date): Byron Peters /s/ 4/21/05	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS
33. EDF CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ECS
34. ECS CCB Chair (Sign/Date):	**Disposition:** Approved App/Com. Disapproved Withdraw Fwd/ESDIS ERB Fwd/ESDIS

ADDITIONAL SHEET

CCR #: 05-0172 **Rev:** **Originator:** Bradley Koenig

Telephone: 301/925-0581 **Office:**

Title of Change: ACSLS TE for LP DAAC

This software comes in two parts:

PUT501S.tar.Z - an STK patch to fix the audit problem on Powderhorn silos. This is also a prerequisite and should be installed first. Once installed, this need not be deinstalled as it will be released shortly to all DAACs as a TE. Please note that is takes about 15 MINUTES for this patch to install. Please be patient...

acssa.Pinn820965 - a diagnostic version of the acssa application that will help track down the IPC read/write error issue. This diagnostic version is temporary and will be replaced by a GA version or the old version will be restored (TBD).

The following are instructions from the vendor:

StorageTek
Unix Storage Server/Product Engineering
PUT0501S for ACSLS 7.1.0
For ACSLS Release 7.1.0 (Solaris)

Contents:
- Detailed Description
- Installation Instructions
- De-installation Instructions

Update notice:
The latest revision of this document is available from the StorageTek Customer Resource Center (CRC). Users are advised to download the latest version before proceeding. When you apply PUT0501S, there is no need to apply any of the individually listed PTFs, SPEs and PUTs listed in this document. Please check the CRC for any maintenance that may have been released after PUT0501S.

Enhancements and Fixes included in PUT0501S

Support for Dynamic Configuration

The Dynamic Configuration utility (config) adds new library components, updates The configuration of existing library components, and deletes library components. ACSLS remains up and running satisfying mount requests to unaffected library c
omponents during dynamic configuration changes. These dynamic configuration requests cover all dynamic configuration needs. Higher level configuration requests include the configuration of subordinate components. For example, configuring an LSM includes configuring all drives onall panels in the LSM.

The three new configuration requests (config acs, config lsm, and config ports) extend the existing dynamic configuration (config drives) utility. (config drives has been supported since ACSLS 6.1)

Event notification reports all dynamic configuration changes.

NOTE: Only limited dynamic configuration changes are support for SCSI-attached libraries. Dynamic configuration changes that involve deleting ACSs or removing or changing port connections are not supported at this time.

Fixes provided in PUT0501S

820822 - Fixes volumes being marked absent during mount and audit This change improves the detection of "in-transit" scenarios by Cartridge Recovery requests. When a cartridge appears to be in-transit, the recovery request is deferred to allow physical movement and database updates to be completed; the recovery is retried automatically. Once the operation that caused the in-transit status has completed, the recovery request can proceed. If the in-transit status is not resolved within a reasonable period of time, the recovery request will mark the volume as MISSING, and will issue the following message to the event log:

2335 I Volume <vol_id> missing, home cell was <cell_id>, drive was <drive_id>, unable to examine in-transit volume
Customer actions: Perform an audit of the home cell for the cartridge. Audit and Cartridge Recovery work together to verify cell contents and toresolve any database inconsistencies.

If no audit is performed, an automatic recovery will eventually be driven for the missing cartridge when a vary at lsm scope or greater is performed, or whenACSLS is restarted.

825320 - database import corrections.

Corrections to the database import routines with regard to how table conversions are handled for earlier versions.
****
NOTE: When you apply PUT0501S, there is no need to apply any of the individual PTFs, SPEs and PUTs listed in this document. Please check the CRC for any maintenance that may have been released after PUT0501S.
****

Enhancements that were incorporated in PUT0501S (previously in PUT0402S)

Support for SL500 Library
(omitted - bvp)

CIM 1.0 - Event Notification Enhancements for CIM Provider
The event notification enhancements include Event Notification at Shutdown (8084
65) and Mount/Dismount notification.

Updated Messages

This update includes the latest version of the ACSLS 7.1 messages file. Recently -added messages include 1458, 2030, 2131, 2132, and 2553.

Fixes previously provided in PUT0402S or an an individual PTF which have been incorporated into PUT0501S.

This PUT supercedes the following ACSLS PTFs, SPEs and PUTs:

- PUT0402S - Megaput incorporating the PTFs listed below

802200 - More accurate reporting of free space for database prevents "0 MB of free space for Informix Database" messages.
803447 - Scripting for graceful startup and shutdown of ACSLS is improved.
804071 - Cmd_proc protects against intermittent hang condition.
806098 - The greplog utility provides more complete filtering capability.
806568 - Recovery of in-transit volumes during startup is corrected.
807872 - The ejecting.sh script supports input file name as argument.
808567 - Erroneous "Cleaning cartridge <volid> is spent" messages are prevented.
809236 - Audit provides better recovery of cartridges that were moved manually using Streamline Library Console.
809891 - SL8500 MultiRobot Enter/Eject Support
811927 - Vary command protects against segmentation fault and/or hangs.
814229 - Library handling protects against errors when SL8500 reports "drive not operational" (1002).
814721 - Improved recovery is implemented after disruptions in TCP/IP LMU communications.
815251 - Interaction between audit and Cartridge Recovery is updated to prevent persistent recovery requests.
816333 - The drives_media.sh script is corrected to prevent "function not found" error messages.
816985 - Status of reserved cells is corrected after errors occur during dismount.
818351 - Audit avoids incorrectly marking volumes "home" when audit is run during mount activity.
818804 - Dismount of LTO Universal Cleaning Cartridge after automated drive cleaning is corrected.
819740 - ACSLS detects and reports change to system hostname which affects Informix "sqlhosts" setting.
819740 - Improved error reporting in the event of a hostname change

Diag/bin and Utilities have been replaced to accommodate changes/corrections.

Please note that evtrig.sh have moved from the Utilities to Diag/bin.

The README.txt explains the addition of full_cells.sh, mgrep, numtest, pname .

WHEN YOU APPLY THIS PUT0501S, THERE IS NO NEED TO APPLY ANY OF THE LISTED PTFS,
SPES OR PUTS. PLEASE CHECK THE CRC FOR ANY MAINTENACNE THAT IS NOT LISTED ABOVE
.
Known Issues for Dynamic Config:

Limited support for SCSI-attached libraries. Only limited dynamic configuration changes are supported for SCSI-attached libraries. Dynamic configuration changes that involve deleting ACSs or removing or changing port connections are not s
upported at this time.

Known Issues for SL500:
(omitted - bvp)

Prerequisites

- ACSLS 7.1.0
INSTALLATION PROCEDURE
Estimated time for installation: 5 minutes
1. Shut down the ACSLS Server:
Login to the ACSLS server as user 'acsss' and idle the server from the cmd_proc shell:

```
ACSSA> idle
ACSSA> logoff
```

From Shell prompt bring down ACSLS software:

```
$ kill.acsss
```

2. Shutdown Informix database:

```
$ db_command stop
```

3. You will need 'root' privileges to install the package. So login to system as root

4. If you are installing PUT0501S from the StorageTek CRC:
o Copy the PUT0501S.tar.Z file that was downloaded from the StorageTek Customer Resource Center (CRC) to the $ACS_HOME directory (usually export/home/ACSSS).

o Uncompress and extract the PUT0501S

```
# cd /export/home/ACSSS
# uncompress PUT0501S.tar.Z
# tar -xvf PUT0501S.tar
# cd PUT0501S
```

5. If you are installing from the CD-ROM:
o Insert the CD-ROM into the CD-ROM drive.
o If the CD-ROM is not auto-mounted, mount it.
o Navigate your way to the Solaris directory beneath the /cdrom/cdrom0 directory.

```
# cd /cdrom/cdrom0
```

6. Install the Package:
o Verify that you are in the correct directory.

```
# ls
README.txt STKacsls
```

Make sure that the 'STKacsls' object resides there.
(README.txt contains text version of README that you are currently reading.)
o Install the package using 'pkgadd'.

```
#pkgadd -d .
```

The following packages are available:

1 STKacsls PUT0501S for ACSLS (sparc) release 7.1.0

Select package(s) you wish to process (or 'all' to process all packages).
(default: all) [?,??,q]:

Press ENTER to select STKacsls.

Note: If you see a prompt "Conflicts with packages already installed, do you wan
t to continue [y,n,?]",

answer "y".

Processing package instance from PUT0501S for ACSLS (sparc) release 7.1.0

(The StorageTek Copyright is displayed.)
This appears to be an attempt to install the same architecture and
version of a package which is already installed. This installation
will attempt to overwrite this package.

```
## Executing checkinstall script.
Using as the package base directory.
## Processing package information.
## Processing system information.
12 package pathnames are already properly installed.
## Verifying disk space requirements.
12 package pathnames are already properly installed.
## Verifying disk space requirements.
```

Checking for conflicts with packages already installed.
Checking for setuid/setgid programs.

This package contains scripts which will be executed with super-user
permission during the process of installing this package.

Do you want to continue with the installation of[y,n,?] y

Enter y to continue.

Installing PUT0501S for ACSLS as

Executing preinstall script.

Bringing down Informix Storage Manager

Installing part 1 of 1.

[verifying class]

Executing postinstall script.
Installation of was successful.

The following packages are available:
1 STKacsls PUT0501S for ACSLS (sparc) release 7.1.0
Select package(s) you wish to process (or 'all' to process all packages). (defa
ult: all) [?,??,q]: q

Enter q to exit (quit) pkgadd.

7. If you installed from CD-ROM, move out of the /cdrom directory and eject the CD-ROM:
    # cd
    # eject cdrom

8. Logout as root and login as acsss.
9. Restart ACSLS
   $ rc.acsss

The installation of PUT0501S is complete. If you experience any problem, please contact Software Support.

Un-Installation Instructions
This procedure removes the code updates in PUT0501S.

1. Shut down the ACSLS Server.
  o Login to the ACSLS server as user acsss and idle the server from the cmd_proc
shell:

    ACSSA> idle
    ACSSA> logoff

  o From the Unix Shell prompt Shut down ACSLS Server
    $ kill.acsss

o Shutdown Informix database
    $ db_command stop

2. To Uninstall Login as root and run 'patchrm'.

patchrm PUT0501S

Checking installed patches...
Backing out patch PUT0501S...
Patch PUT0501S has been backed out.

StorageTek Software Development

February 11, 2005

Diagnostic acssa Installation Instructions

The new binary we are supplying is for the ACSSA process. The new binary file is called acssa.Pinn820965.

Do the following as user "acsss"

Copy the file acssa.Pinn820965 into $ACS_HOME/bin

```
$ cd $ACS_HOME/bin
$ cp acssa acssa.original
$ cp acssa.Pinn820965 acssa
$ chmod 755 acssa
```

The new binary is now installed. To put it into operation you have two choices...

1) (RECOMMENDED) Restart ACSLS (make sure your site operations are quiesced first). As user acsss, perform the following:

```
$ kill.acsss
$ rc.acsss
```

- OR -

2) (ALTERNATIVE) Start it without taking ACSLS down (Note: If you choose this option, your cmd_procs will no longer receive messages from ACSLS;
You must subsequently shut each one down and restart it to re-establish that messaging capability). As user acsss, perform the following:

```
# ps -ef | grep acssa
```

The output looks like this:

```
acsss  2817  2304  0 16:01:21 ?   0:00 acssa 2304 50004 23 2
```

The second field (in our example, 2817) is the PID (process ID) of the acssa.

Type "kill -9 <PID>" (e.g. "kill -9 2817")

You will see messages in the acsss_event.log indicating that the acssa was terminated and restarted.